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Changes for the Better

MITSUBISHI ELECTRIC

SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

CE

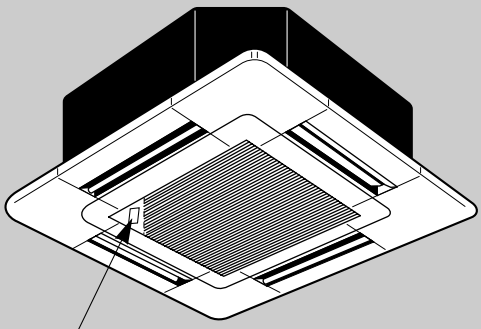
No. OC320

TECHNICAL & SERVICE MANUAL

Series SLZ Ceiling Cassettes R410A

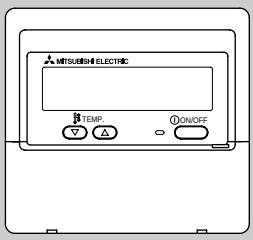
Indoor unit [Model names]	[Service Ref.]
SLZ-KA25VA	SLZ-KA25VA.TH
SLZ-KA35VA	SLZ-KA35VA.TH
SLZ-KA50VA	SLZ-KA50VA.TH
SLZ-KA25VAL	SLZ-KA25VAL.TH
SLZ-KA35VAL	SLZ-KA35VAL.TH
SLZ-KA50VAL	SLZ-KA50VAL.TH

Note :
- This manual does not cover outdoor units. When servicing outdoor units, please refer to the service manual No.OC322 together with this manual.



INDOOR UNIT

SLZ-KA25,35,50VAL.TH



SLZ-KA25,35,50VA.TH

REMOTE CONTROLLER

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Mr.SLIM™

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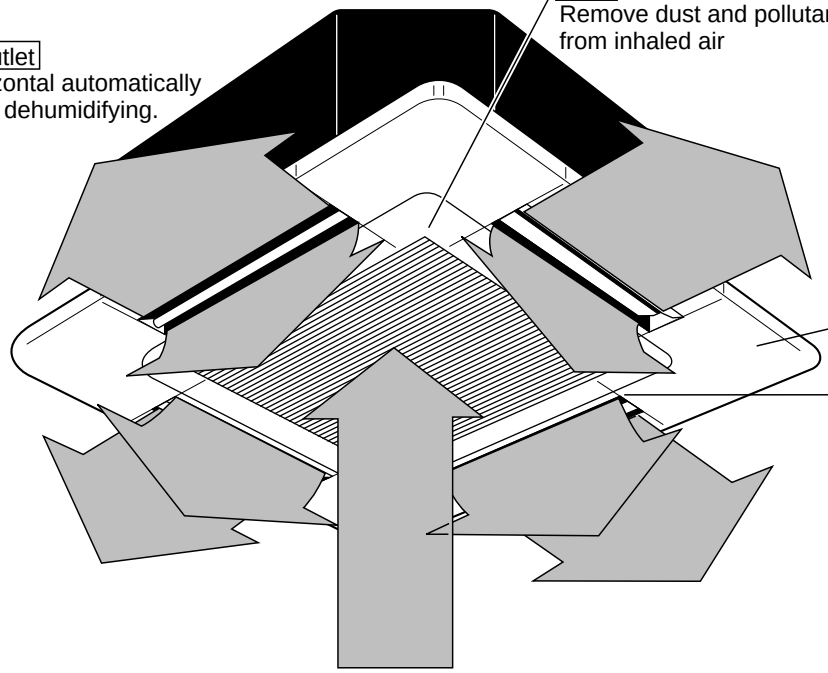
1 PART NAMES AND FUNCTIONS

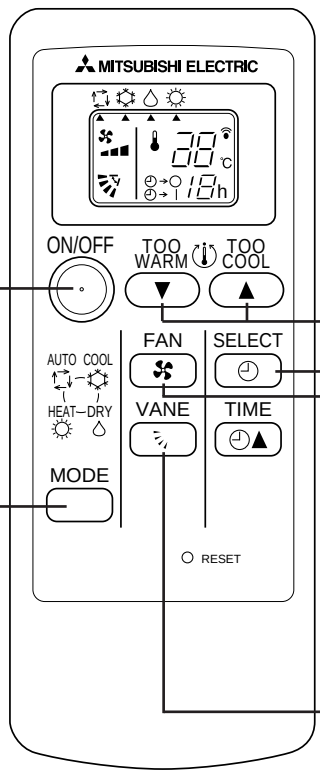
Indoor Unit

SLZ-KA25VAL.TH SLZ-KA25VA.TH
SLZ-KA35VAL.TH SLZ-KA35VA.TH
SLZ-KA50VAL.TH SLZ-KA50VA.TH


Filter
Remove dust and pollutants from inhaled air
Horizontal Air Outlet
Sets airflow horizontal automatically during cooling or dehumidifying.
Grille
Auto Air Swing Vane
Disperses airflow up and down and adjusts the angle of airflow direction.
Air Intake
Inhales air from room.

Wireless remote controller

SLZ-KA25VAL.TH
SLZ-KA35VAL.TH
SLZ-KA50VAL.TH



ON / OFF button
Pushing button starts operation. Pushing again stops operation.

MODE SELECT button
This button is used to change between auto, cooling, heating and drying operation modes. (SLZ)

SET TEMPERATURE button
SET TEMPERATURE button sets and any desired room temperature.

TIMER SELECT button
Used for selecting timed starting or stopping.

FAN SPEED button
This button is used to set fan speed to low, medium or high.

VANE CONTROL button
Used to change the airflow direction.

Attention :

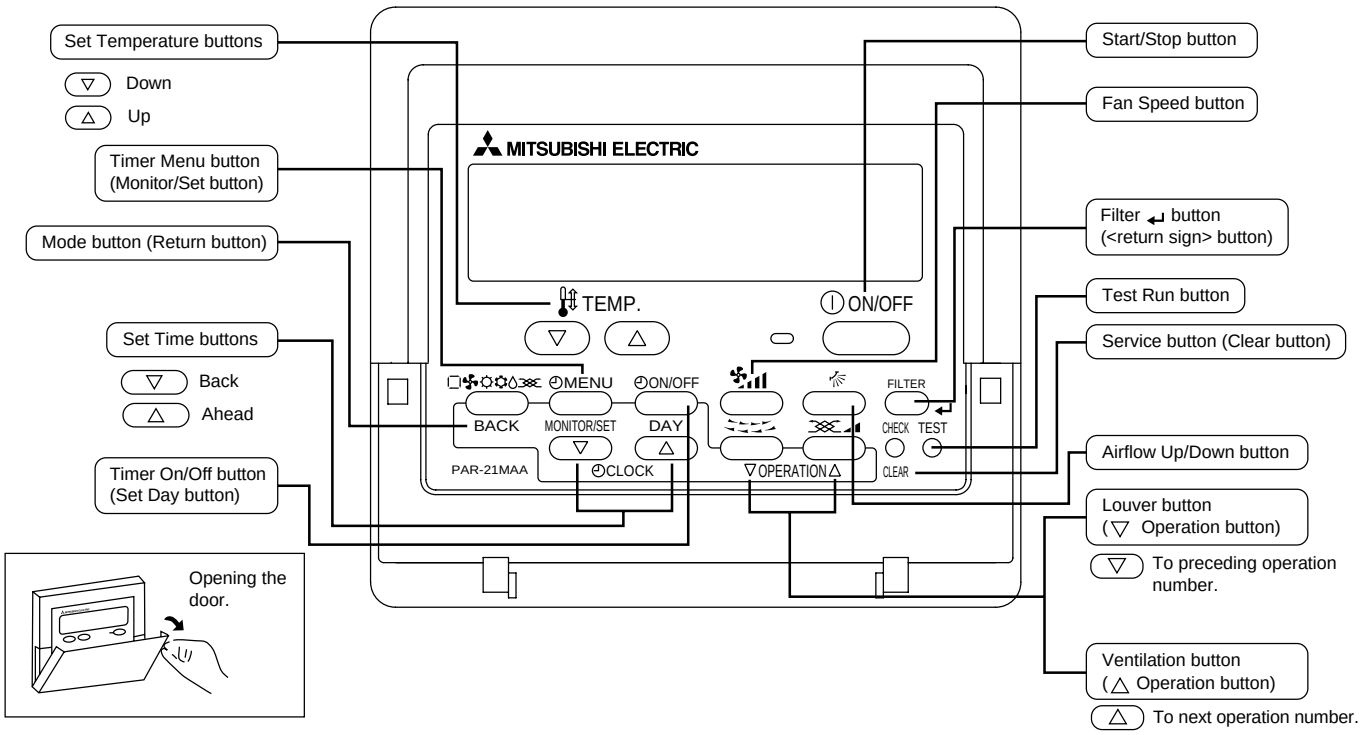
● Avoid operation of buttons with fingernails or other sharp objects. Sharp objects may scratch remote controller.

Wired remote controller

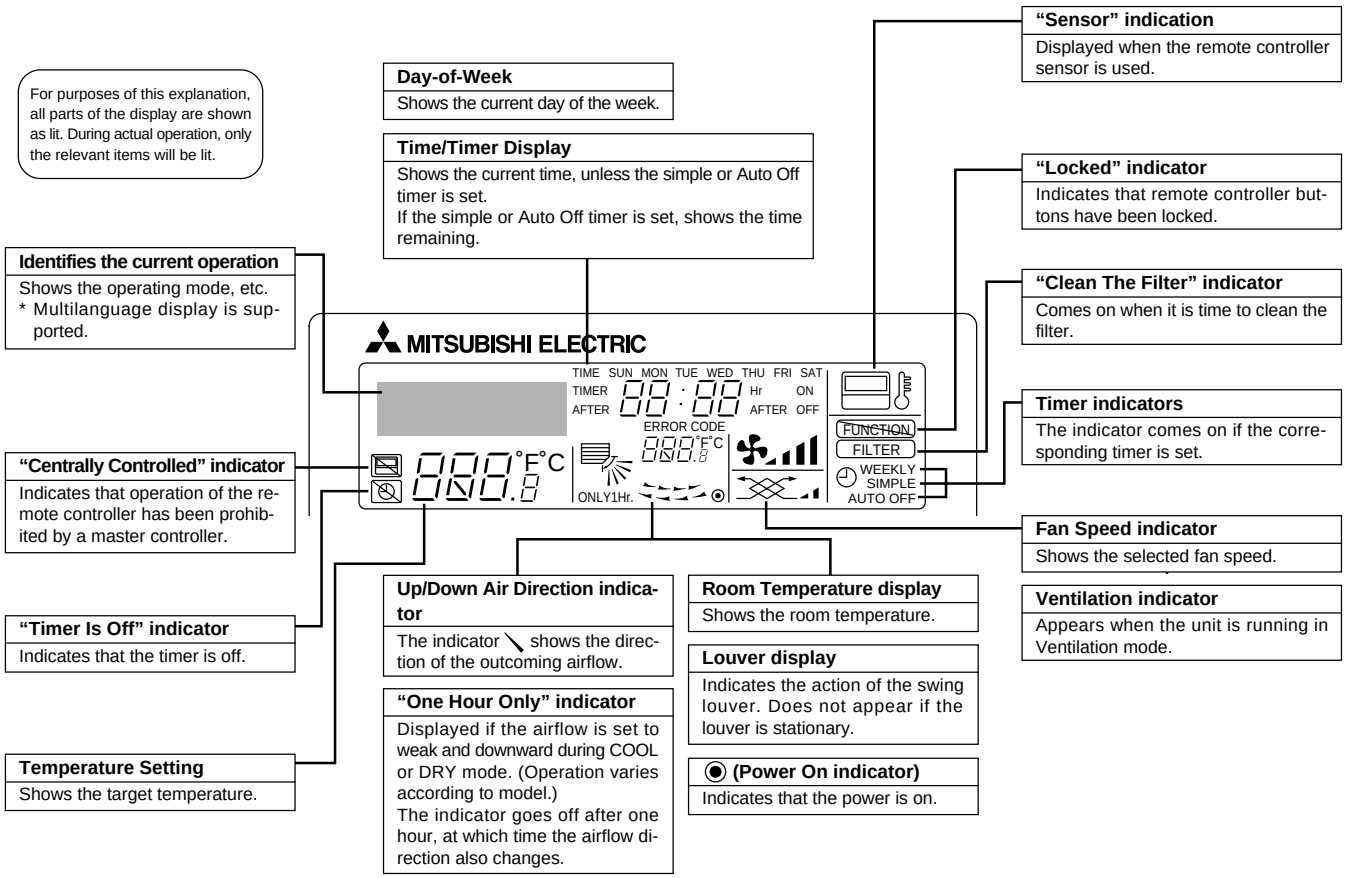
Once the controls are set, the same operation mode can be repeated by simply pressing the ON/OFF button.

SLZ-KA25VA.TH
SLZ-KA35VA.TH
SLZ-KA50VA.TH

● Operation buttons [PAR-21MAA]



● Display


For purposes of this explanation, all parts of the display are shown as lit. During actual operation, only the relevant items will be lit.
Day-of-Week
Shows the current day of the week.
Time/Timer Display
Shows the current time, unless the simple or Auto Off timer is set.
If the simple or Auto Off timer is set, shows the time remaining.
"Sensor" indication
Displayed when the remote controller sensor is used.
"Locked" indicator
Indicates that remote controller buttons have been locked.
"Clean The Filter" indicator
Comes on when it is time to clean the filter.
Timer indicators
The indicator comes on if the corresponding timer is set.
Identifies the current operation
Shows the operating mode, etc.
* Multilanguage display is supported.
"Centrally Controlled" indicator
Indicates that operation of the remote controller has been prohibited by a master controller.
"Timer Is Off" indicator
Indicates that the timer is off.
Temperature Setting
Shows the target temperature.
Up/Down Air Direction indicator
The indicator shows the direction of the outcoming airflow.
"One Hour Only" indicator
Displayed if the airflow is set to weak and downward during COOL or DRY mode. (Operation varies according to model.)
The indicator goes off after one hour, at which time the airflow direction also changes.
Room Temperature display
Shows the room temperature.
Louver display
Indicates the action of the swing louver. Does not appear if the louver is stationary.
(Power On indicator)
Indicates that the power is on.
Fan Speed indicator
Shows the selected fan speed.
Ventilation indicator
Appears when the unit is running in Ventilation mode.
MITSUBISHI ELECTRIC
TIME SUN MON TUE WED THU FRI SAT
TIMER
AFTER
Hr
ON
AFTER
OFF
ERROR CODE
FUNCTION
FILTER
WEEKLY
SIMPLE
AUTO OFF
ONLY1Hr.

Caution

- Only the Power display lights when the unit is stopped and power supplied to the unit.
- When power is turned ON for the first time the (Centrally controlled) display appears to go off momentarily but this is not a malfunction.
- "NOT AVAILABLE" is displayed when the Air speed button are pressed.This indicates that this room unit is not equipped with the fan direction adjustment function and the louver function.
- When power is turned ON for the first time, it is normal that "PLEASE WAIT" is displayed on the room temperature indication (For max. 2minutes). Please wait until this "PLEASE WAIT" indication disappear then start the operation.

2 SPECIFICATIONS

Indoor model			SLZ-KA25VAL.TH SLZ-KA25VA.TH		SLZ-KA35VAL.TH SLZ-KA35VA.TH		SLZ-KA50VAL.TH SLZ-KA50VA.TH	
Function			Cooling	Heating	Cooling	Heating	Cooling	Heating
Power supply			Single phase 230V, 50Hz		Single phase 230V, 50Hz		Single phase 230V, 50Hz	
Capacity	Air flow (High/Medium/Low)	m³ /h	600/540/480		660/540/480		660/540/480	
Electrical data	Power outlet	A	10		10		20	
	Running current ✻1	A	0.35		0.40		0.65	
	Power input Rated frequency	W	75		85		85	
	Dew prevention heater	(kW)	0.014		0.014		0.014	
	Power factor ✻1	%	90	93	94	94	97	97
	Fan motor current ✻1	A	0.19		0.26		0.27	
Fan motor	Model		PK6V15-LD		PK6V20-LL		PK6V20-LM	
	Winding resistance (at20℃)	Ω	WHT-BLK : 407 BLK-BLU : 86 BLU-YLW : 30 BRN-RED : 165		WHT-BLK : 393 BLK-BLU : 164 BLU-YLW : 47 BRN-RED : 319		WHT-BLK : 325 BLK-BLU : 143 BLU-YLW : 47 BRN-RED : 309	
Dimensions	Width	mm(in)	UNIT : 570(22-7/16) PANEL : 650(25-9/16)					
	Height	mm(in)	UNIT : 208(8-3/16) PANEL : 20(13/16)					
	Depth	mm(in)	UNIT : 570(22-7/16) PANEL : 650(25-9/16)					
Weight		kg	UNIT : 16.5 PANEL : 3					
Special remarks	Air direction		4		4		4	
	Sound level(High/Medium/Low)	dB(A)	37/31/28		38/33/29		39/34/30	
	Fan speed(High/Medium/Low)	rpm	650/530/480		690/570/510		710/590/530	
	Fan speed regulator		3		3		3	
	Thermistor TH1(at25℃)	kΩ	10		10		10	
	Thermistor TH2(at25℃)	kΩ	10		10		10	
	Thermistor TH5(at25℃)	kΩ	10		10		10	

NOTE : Test conditions are based on ISO 5151
Cooling : Indoor D.B. 27℃ W.B. 19℃
Outdoor D.B. 35℃ W.B. 24℃
Heating : Indoor D.B. 20℃ W.B. 15℃
Outdoor D.B. 7℃ W.B. 6℃
Refrigerant piping length (one way): 5m
✻1 Measured under rated operating frequency.

Specifications and rating conditions of main electric parts

INDOOR UNIT

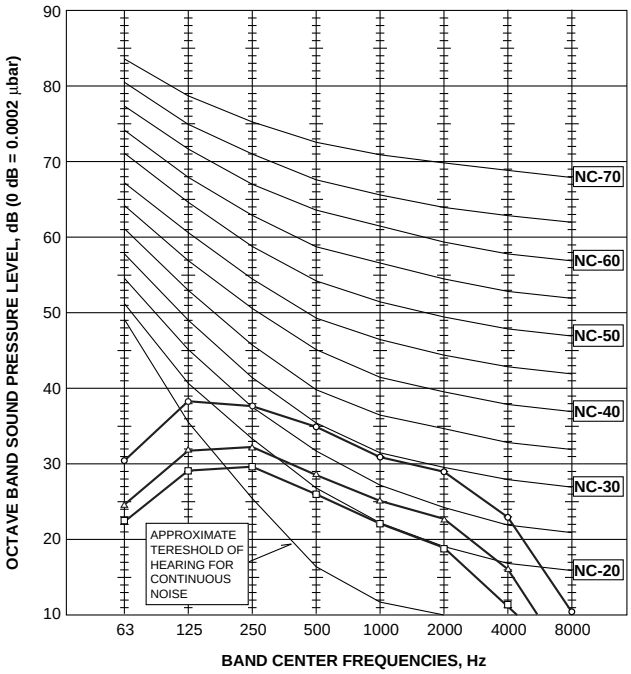
Item \ Model		SLZ-KA25VAL.TH SLZ-KA25VA.TH	SLZ-KA35VAL.TH SLZ-KA35VA.TH	SLZ-KA50VAL.TH SLZ-KA50VA.TH
Indoor fan capacitor	(C1)	1.5μF 440V		
Fuse	(FUSE)	250V 6.3A		
Vane motor	(MV)	MSBPC20 12V 250Ω		
Terminal block	(TB)	TO OUTDOOR UNIT : 3P TO WIRED REMOTE CONTROLLER : 2P (SLZ-KA25/35/50VA.TH)		
Indoor fan motor thermal fuse		145℃ ±2℃		
Cord Heater	(H2)	240V AC 15W		

NOISE CRITERION CURVES

SLZ-KA25VAL.TH
SLZ-KA25VA.TH

<50Hz>

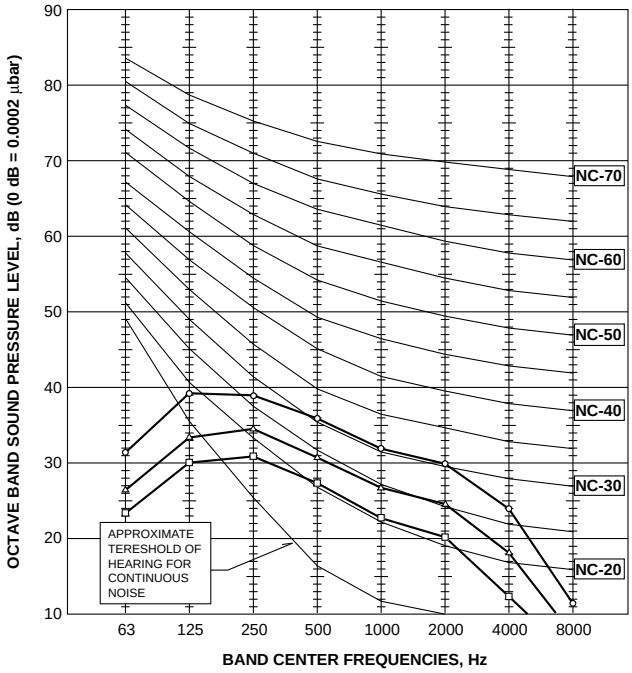
NOTCH	SPL(dB)	LINE
High	37	○—○
Medium	31	△—△
Low	28	□—□



SLZ-KA35VAL.TH
SLZ-KA35VA.TH

<50Hz>

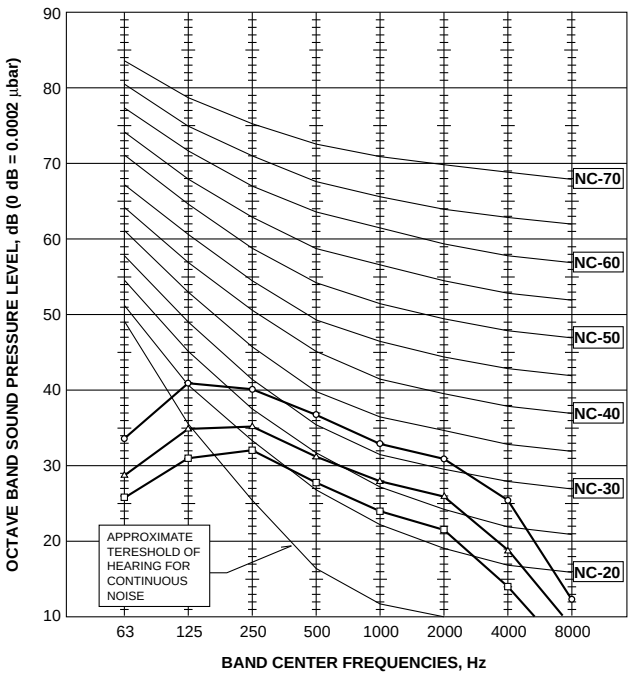
NOTCH	SPL(dB)	LINE
High	38	○—○
Medium	33	△—△
Low	29	□—□

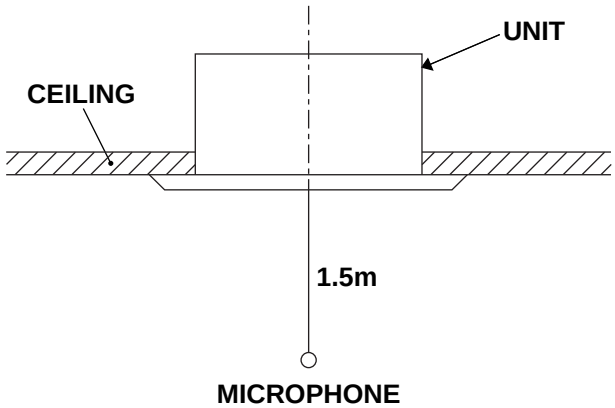


SLZ-KA50VAL.TH
SLZ-KA50VA.TH

<50Hz>

NOTCH	SPL(dB)	LINE
High	39	○—○
Medium	34	△—△
Low	30	□—□





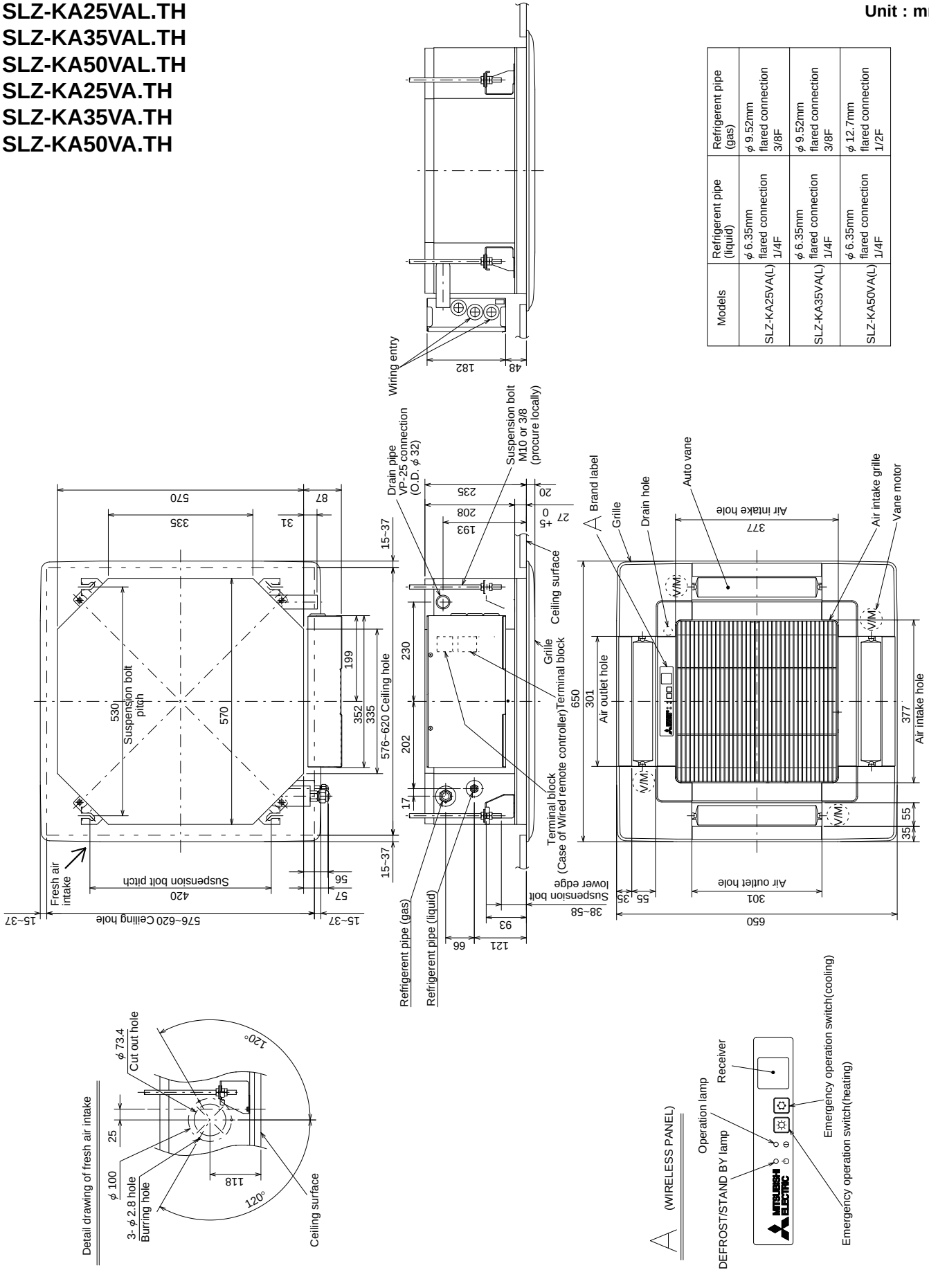
NOTE: The sound level is measured in an anechoic room where echoes are few, when compressor stops. The sound may be bigger than displayed level under actual installation condition by surrounding echoes. The sound level can be higher by about 2 dB than the displayed level during cooling and heating operation.

3 OUTLINES AND DIMENSIONS

SLZ-KA25VAL.TH
SLZ-KA35VAL.TH
SLZ-KA50VAL.TH
SLZ-KA25VA.TH
SLZ-KA35VA.TH
SLZ-KA50VA.TH

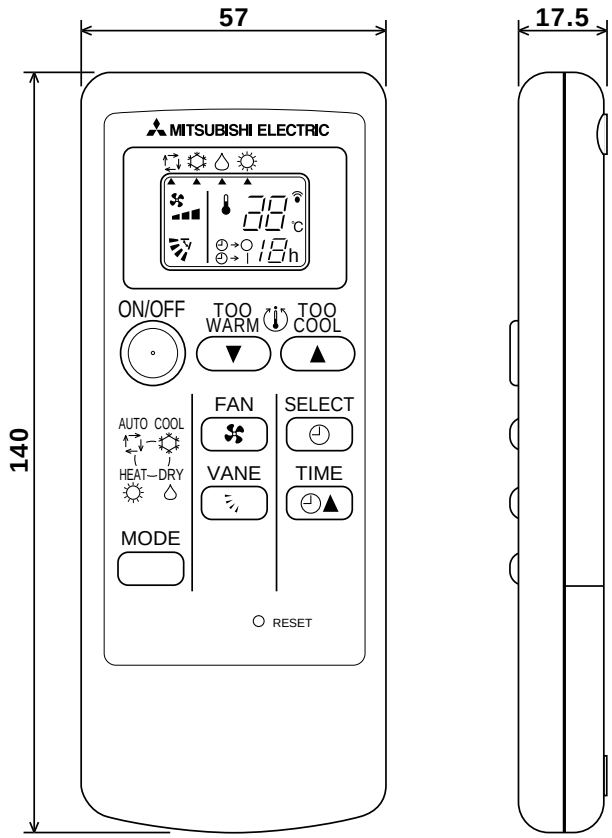
Unit : mm

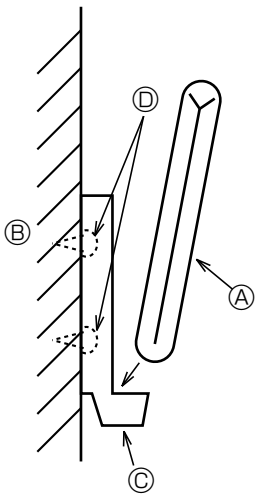
Models	Refrigerent pipe (liquid)	Refrigerent pipe (gas)
SLZ-KA25VA(L)	ϕ 6.35mm flared connection 1/4F	ϕ 9.52mm flared connection 3/8F
SLZ-KA35VA(L)	ϕ 6.35mm flared connection 1/4F	ϕ 9.52mm flared connection 3/8F
SLZ-KA50VA(L)	ϕ 6.35mm flared connection 1/4F	ϕ 12.7mm flared connection 1/2F



WIRELESS REMOTE CONTROLLER

Unit : mm





Installation area

- Area in which the remote controller is not exposed direct sunshine.
- Area in which there is no nearby heating source.
- Area in which the remote controller is not exposed to cold (or hot) winds.
- Area in which the remote controller can be operated easily
- Area in which the remote controller is beyond the reach of children.

Installation method

① Attach the remote controller holder to the desired location using two tapping screws.

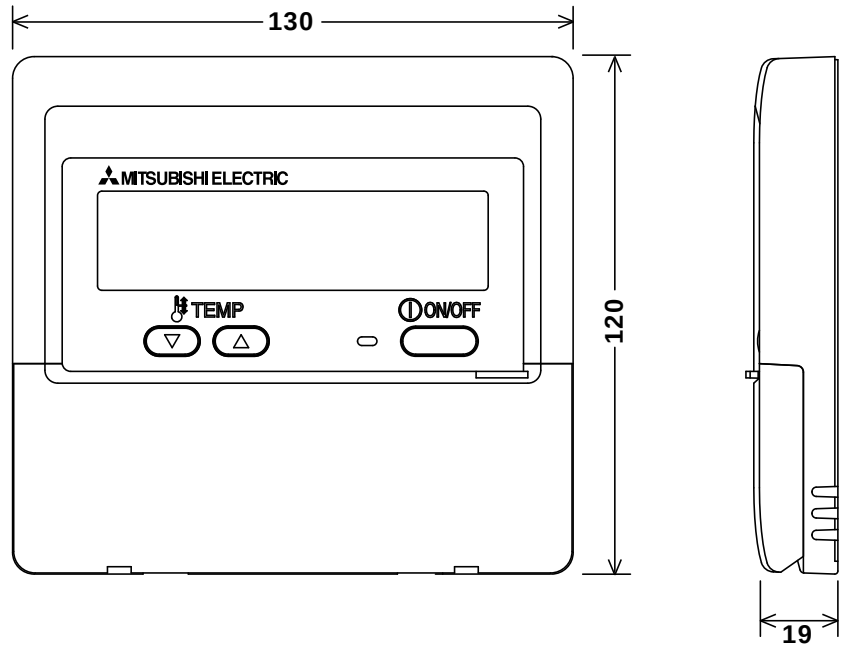
② Place the lower end of the controller into the holder.

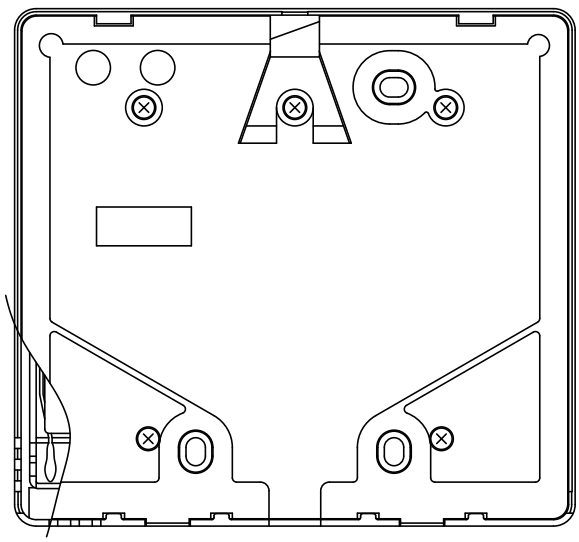
Ⓐ Wireless remote controller (Accessory)
Ⓑ Wall
Ⓒ Remote controller holder (Accessory)
Ⓓ Fixing screw (Accessory)

- The signal can travel up to approximately 7 meters (in a straight line) within 45 degrees to both right and left of the center line of the receiver.
  In addition, the signal may not be received if there is interference of light of fluorescent lights or strong sunlight.

WIRED REMOTE CONTROLLER

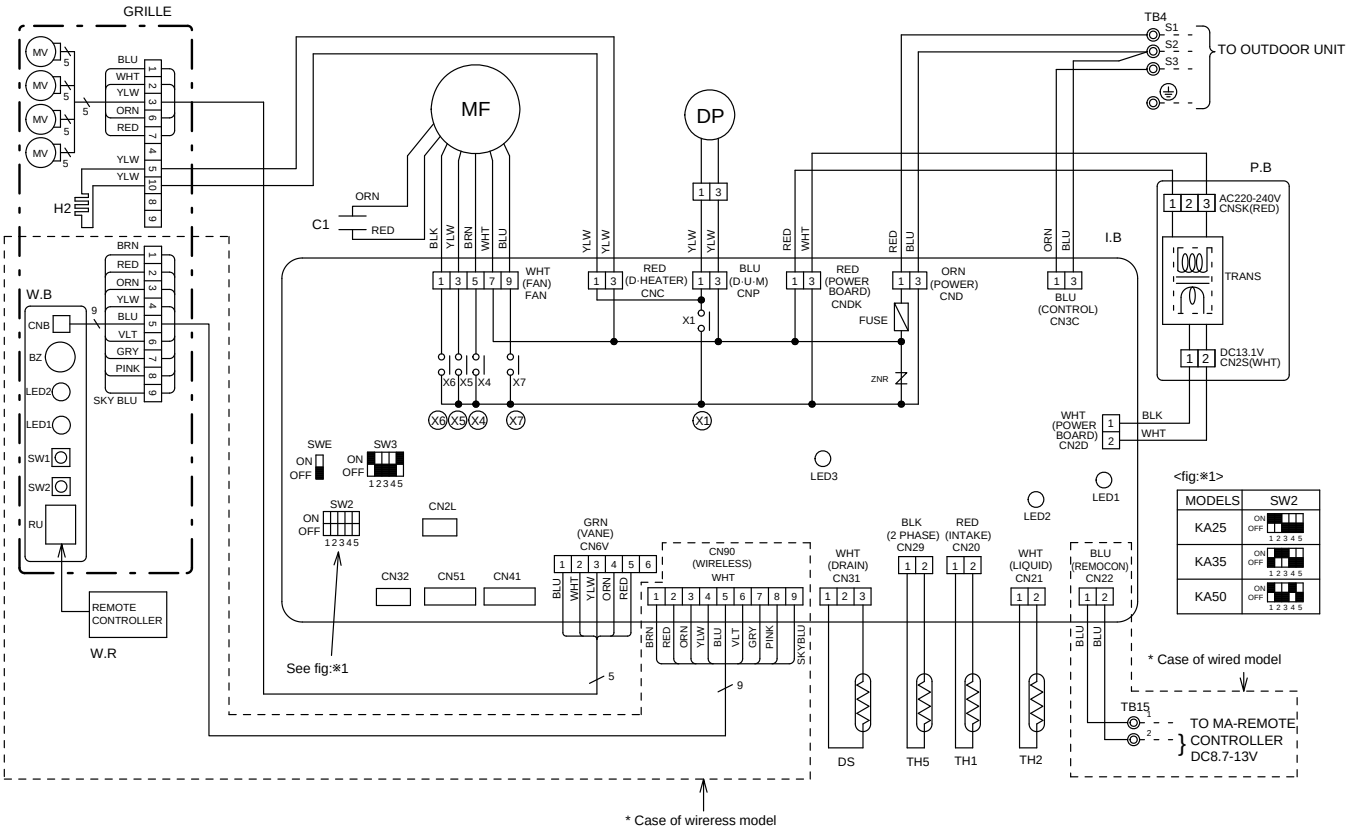
Unit : mm





4 WIRING DIAGRAM

SLZ-KA25VAL.TH SLZ-KA25VA.TH
SLZ-KA35VAL.TH SLZ-KA35VA.TH
SLZ-KA50VAL.TH SLZ-KA50VA.TH



[LEGEND]

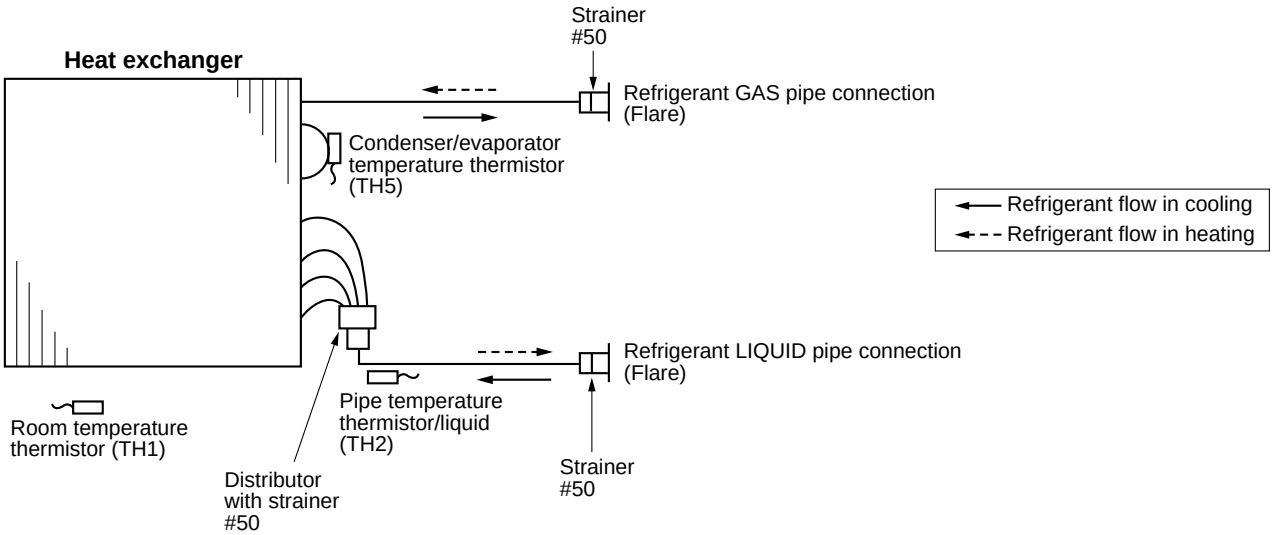
SYMBOL		NAME	SYMBOL		NAME
P.B		INDOOR POWER BOARD	W.B		WIRELESS REMOTE CONTROLLER BOARD
I.B		INDOOR CONTROLLER BOARD		RU	RECEIVING UNIT
	CN2L	CONNECTOR(LOSSNAY)		BZ	BUZZER
	CN32	CONNECTOR(REMOTE SWITCH)		LED1	LED(RUN INDICATOR)
	CN41	CONNECTOR(HA TERMINAL-A)		LED2	LED(HOT ADJUST)
	CN51	CENTRALLY CONTROL		SW1	SWITCH(HEATING ON/OFF)
	FUSE	FUSE(T6.3AL250V)		SW2	SWITCH(COOLING ON/OFF)
	LED1	POWER SUPPLY(I.B)	C1		CAPACITOR(FAN MOTOR)
	LED2	POWER SUPPLY(I.B)	DP		DRAIN-UP MACHINE
	LED3	TRANSMISSION(INDOOR-OUTDOOR)	DS		DRAIN SENSOR
	SW2	SWITCH(CAPACITY CODE)	H2		DEW PREVENTION HEATER
	SW3	SWITCH(MODE SELECTION)	MF		FAN MOTOR
	SWE	SWITCH(EMERGENCY OPERATION)	MV		VANE MOTOR
	X1	DRAIN PUMP/DEW PREVENTION HEATER	TB4		TERMINAL BLOCK(INDOOR/OUTDOOR CONNECTING LINE)
	X4	RELAY(FAN MOTOR LL)	TB15		TERMINAL BLOCK(REMOTE CONTROLLER TRANSMISSION LINE)
	X5	RELAY(FAN MOTOR Lo)			
	X6	RELAY(FAN MOTOR Hi)	TH1		ROOM TEMP.THERMISTOR (0°C/15kΩ,25°C/5.4kΩ DETECT)
	X7	RELAY(FAN MOTOR Me)			
	ZNR	VARISTOR	TH2		PIPE TEMP.THERMISTOR/LIQUID (0°C/15kΩ,25°C/5.4kΩ DETECT)
			TH5		COND./EVA.TEMP.THERMISTOR (0°C/15kΩ,25°C/5.4kΩ DETECT)

NOTES: 1.Since the outdoor side electric wiring may change be sure to check the outdoor unit electric wiring for servicing.
2.Indoor and outdoor connecting wires are made with polarities,make wiring matching terminal numbers(S1,S2,S3).
3.Symbols used in wiring diagram above are, □□□ :Connector, ◎ :Terminal (block).

※ For details on how to operate self-diagnosis refer to the technical manuals etc.

5 REFRIGERANT SYSTEM DIAGRAM

SLZ-KA25VAL.TH SLZ-KA25VA.TH
SLZ-KA35VAL.TH SLZ-KA35VA.TH
SLZ-KA50VAL.TH SLZ-KA50VA.TH



6 TROUBLESHOOTING

6-1. Cautions on troubleshooting

(1) Before troubleshooting, check the followings:

①Check the power supply voltage.

②Check the indoor/outdoor connecting wire for mis-wiring.

(2) Take care the followings during servicing.

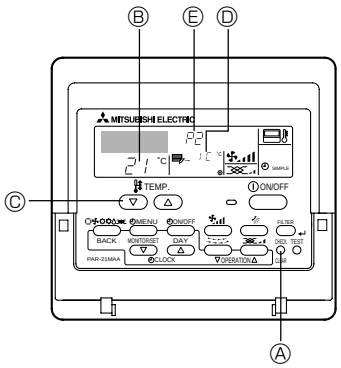
① Before servicing the air conditioner, be sure to first turn off the remote controller to stop the main unit, and then turn off the breaker.

② When removing the indoor controller board, hold the edge of the board with care NOT to apply stress on the components.

③ When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

6-2. Self-check

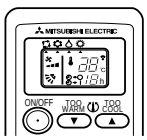
6-2-1. Wired remote controller



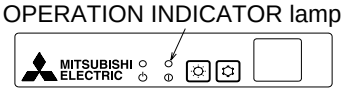
Ⓐ CHECK button
Ⓑ Refrigerant address
Ⓒ TEMP. button
Ⓓ IC:Indoor unit
OC:Outdoor unit
Ⓔ Check code

① Turn on the power.
② Press the [CHECK] button twice.
③ Set refrigerant address with [TEMP] button if system control is used.
④ Press the [ON/OFF] button to stop the self-check.

6-2-2. Wireless remote controller



OPERATION INDICATOR lamp

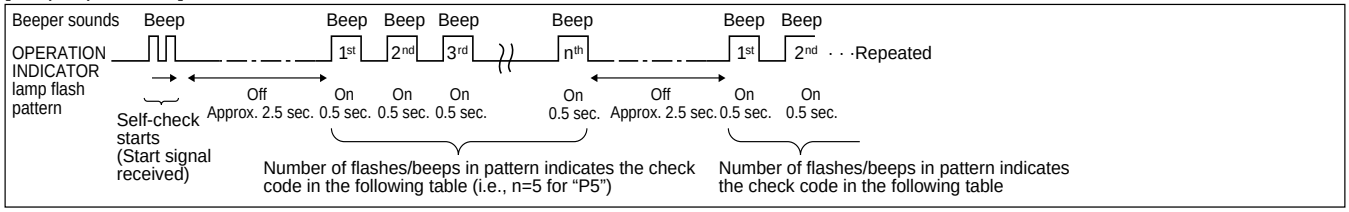


The following indication applies regardless of shape of the indicator

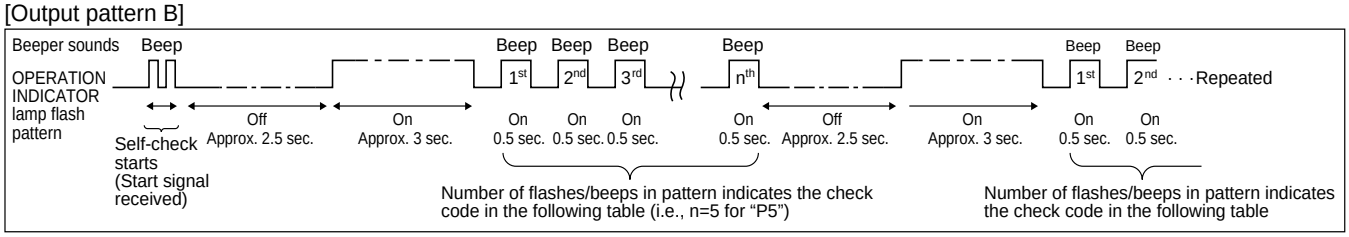
① Turn ON the power.
② During pressing both the MODE SELECT button and TOO COOL button on the remote controller at the same time, press the RESET button.
③ At first, release the RESET button.
④ And release the other two buttons since all LCD in operation display section of the remote controller is displayed after 3 seconds.
⑤ Transmit the signal of remote controller, pressing OPERATE/STOP (ON/OFF) button on the remote controller
(The above procedure allows OPERATION INDICATOR lamp to indicate the failure-mode.)
⑥ Transmit the signal of remote controller, pressing OPERATE/STOP (ON/OFF) button to stop the self-check.

• Refer to the following tables for details on the check codes.

[Output pattern A]


Beeper sounds
Beep
Beep Beep Beep
Beep
Beep Beep
OPERATION INDICATOR lamp flash pattern
1st 2nd 3rd nth 1st 2nd · · ·Repeated
Off
On On On On
Off
On On
Self-check starts (Start signal received)
Approx. 2.5 sec.
0.5 sec. 0.5 sec. 0.5 sec. 0.5 sec.
Approx. 2.5 sec.
0.5 sec. 0.5 sec.
Number of flashes/beeps in pattern indicates the check code in the following table (i.e., n=5 for "P5")
Number of flashes/beeps in pattern indicates the check code in the following table

[Output pattern B]



[Output pattern A] Errors detected by indoor unit

Wireless remote controller Beeper sounds/OPERATION INDICATOR lamp flashes (Number of times)	Wired remote controller ① Check code	Symptom	Remark
1	P1	Intake sensor error	
2	P2	Pipe (TH2) sensor error	
	P9	Pipe (TH5) sensor error	
3	E6,E7	Indoor/outdoor unit communication error	
4	P4	Drain sensor error	
5	P5	Drain pump error	
6	P6	Freeing/Overheating safeguard operation	
7	EE	Communication error between indoor and outdoor units	
8	P8	Pipe temperature error	
9	E4, E5	Remote controller signal receiving error	
10	–	–	
11	–	–	
12	Fb	Indoor unit control system error (memory error, etc.)	
–	E0, E3	Remote controller transmission error	
–	E1, E2	Remote controller control board error	

[Output pattern B] Errors detected by unit other than indoor unit (outdoor unit, etc.)

Wireless remote controller Beeper sounds/OPERATION INDICATOR lamp flashes (Number of times)	Wired remote controller ① Check code	Symptom	Remark
1	E9	Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)	For details, check the LED display of the outdoor controller board. As for outdoor unit, refer to service manual OC322.
2	UP	Compressor overcurrent interruption	
3	U3,U4	Open/short of outdoor unit thermistors	
4	UF	Compressor overcurrent interruption (When compressor locked)	
5	U2	Abnormal high discharging temperature/49C worked/ insufficient refrigerant	
6	U1,Ud	Abnormal high pressure (63H worked)/Overheating safeguard operation	
7	U5	Abnormal temperature of heat sink	
8	U8	Outdoor unit fan safeguard stop	
9	U6	Compressor overcurrent interruption/Abnormal of power module	
10	U7	Abnormality of super heat due to low discharge temperature	
11	U9,UH	Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit/Current sensor error	
12	–	–	
13	–	–	
14	Others	Other errors (Refer to the technical manual for the outdoor unit.)	

*1 If the beeper does not sound again after the initial two beeps to confirm the self-check start signal was received and the OPERATION INDICATOR lamp does not come on, there are no error records.

*2 If the beeper sounds three times continuously "beep, beep, beep (0.4 + 0.4 + 0.4 sec.)" after the initial two beeps to confirm the self-check start signal was received, the specified refrigerant address is incorrect.

To be continued on the next page.

• On wireless remote controller
②The continuous buzzer sounds from receiving section of indoor unit.
③Blink of operation lamp
• On wired remote controller
①Check code displayed in the LCD.

• If the unit cannot be operated properly after the above test run has been performed, refer to the following table to remove the cause.

Symptom			Cause
Wired remote controller		LED 1, 2 (PCB in outdoor unit)	
PLEASE WAIT	For about 2 minutes following power-on	After LED 1, 2 are lighted, LED 2 is turned off, then only LED 1 is lighted. (Correct operation)	•For about 2 minutes following power-on,operation of the remote controller is not possible due to system start-up. (Correct operation)
PLEASE WAIT → Error code	After about 2 minutes has expired following power-on	Only LED 1 is lighted. → LED 1, 2 blink.	•Connector for the outdoor unit's protection device is not con-nected. •Reverse or open phase wiring for the outdoor unit's power terminal block (L1, L2, L3)
Display messages do not appear even when operation switch is turned ON (operation lamp does not light up).		Only LED 1 is lighted. → LED 1 blinks twice, LED 2 blinks once.	•Incorrect wiring between indoor and outdoor units (incorrect polarity of S1, S2, S3) •Remote controller wire short

On the wireless remote controller with condition above, following phenomena takes place.
• No signals from the remote controller are accepted.
• OPE lamp is blinking.
• The buzzer makes a short piping sound.

Note:
Operation is not possible for about 30 seconds after cancellation of function selection. (Correct operation)

For description of each LED (LED1, 2, 3) provided on the indoor controller, refer to the following table.

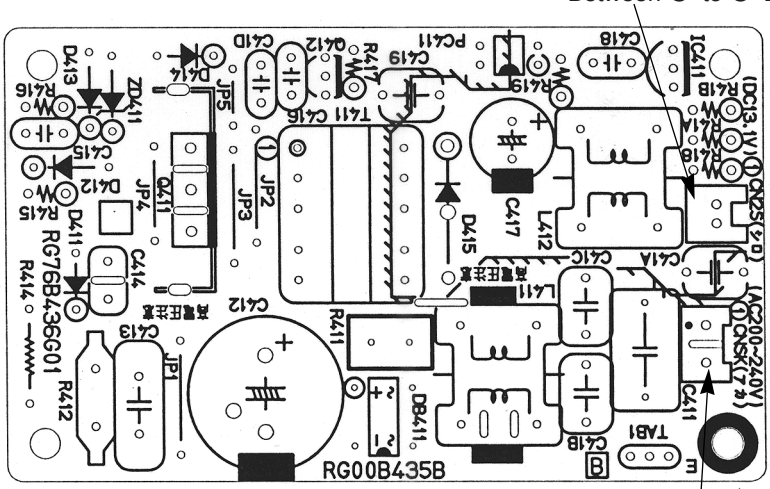
LED1 (power for microcomputer)	Indicates whether control power is supplied. Make sure that this LED is always lit.
LED2 (power for remote controller)	Indicates whether power is supplied to the remote controller. This LED lights only in the case of the indoor unit which is connected to the outdoor unit refrigerant address "0".
LED3 (communication between indoor and outdoor units)	Indicates state of communication between the indoor and outdoor units. Make sure that this LED is always blinking.

6-3. Test point diagram

6-3-1. Indoor power board

SLZ-KA25VAL.TH SLZ-KA25VA.TH
SLZ-KA35VAL.TH SLZ-KA35VA.TH
SLZ-KA50VAL.TH SLZ-KA50VA.TH

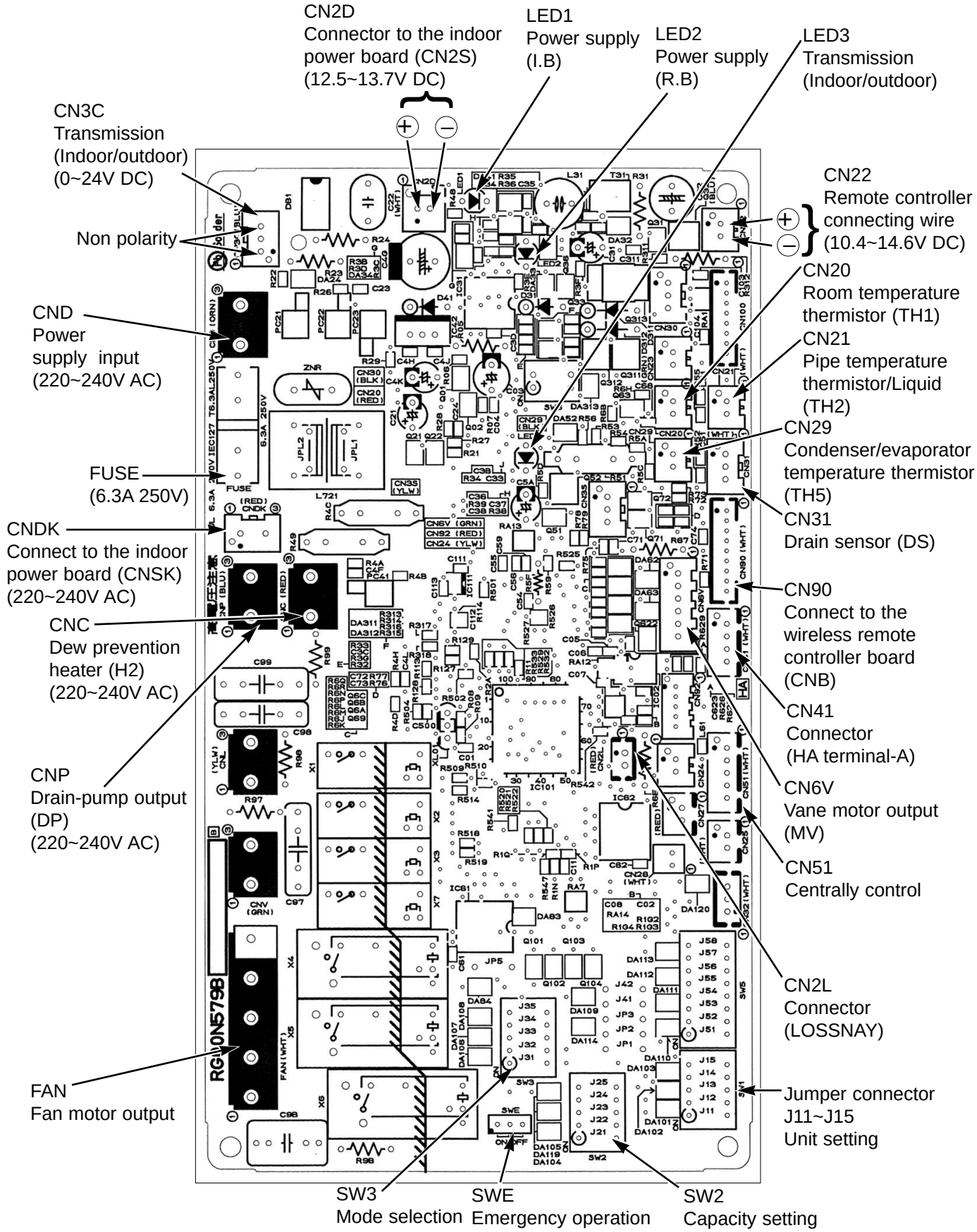
CN2S
Connect to the indoor controller board (CN2D)
Between ① to ③ 12.6-13.7V DC (Pin① (+))



CNSK
Connect to the indoor controller board (CNDK)
Between ① to ③ 220-240V AC

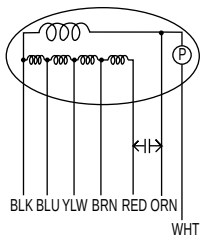
6-3-2. Indoor controller board

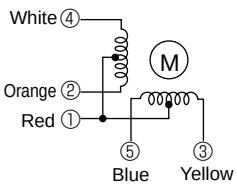
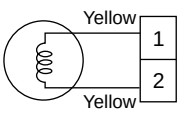
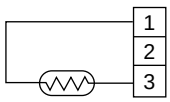
SLZ-KA25VAL.TH SLZ-KA25VA.TH
SLZ-KA35VAL.TH SLZ-KA35VA.TH
SLZ-KA50VAL.TH SLZ-KA50VA.TH



6-4. Trouble criterion of main parts

SLZ-KA25VAL.TH SLZ-KA25VA.TH
SLZ-KA35VAL.TH SLZ-KA35VA.TH
SLZ-KA50VAL.TH SLZ-KA50VA.TH

<table>
<tr><th>Part name</th><th>Check method and criterion</th></tr>
<tr><td>Room temperature thermistor (TH1)
Pipe temperature thermistor/liquid (TH2)
Condenser/evaporator temperature thermistor (TH5)</td><td>Measure the resistance with a tester.
(Part temperature 10°C ~ 30°C)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>4.3kΩ~9.6kΩ</td><td>Opened or short-circuited</td></tr></table></td></tr>
<tr><td>Indoor fan motor (MF)
 

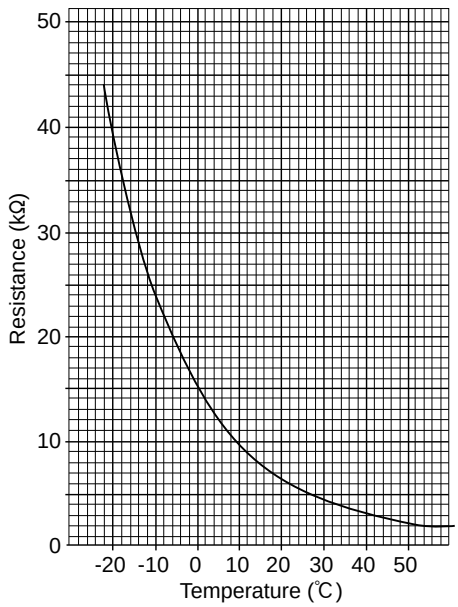
Ⓟ : Thermal fuse 145 ± 2˚C</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature 10°C ~ 30°C)
<table><tr><th></th><th colspan="3">Normal</th><th rowspan="2">Abnormal</th></tr><tr><th></th><th>KA25VA(L)</th><th>KA35VA(L)</th><th>KA50VA(L)</th></tr><tr><td>WHT-BLK</td><td>386~428Ω</td><td>373~413Ω</td><td>308~341Ω</td><td rowspan="4">Opened or short-circuited</td></tr><tr><td>BLK-BLU</td><td>81~91Ω</td><td>155~172Ω</td><td>135~151Ω</td></tr><tr><td>BLU-YLW</td><td>28~32Ω</td><td>44~49Ω</td><td>44~49Ω</td></tr><tr><td>BRN-RED</td><td>157~174Ω</td><td>302~335Ω</td><td>293~324Ω</td></tr></table></td></tr>
<tr><td>Vane motor (MV)
 
</td><td>Measure the resistance between the terminals using a tester.
(Surrounding temperature 20℃~30℃)
<table><tr><th>Connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>Red — Yellow</td><td rowspan="4">300Ω</td><td rowspan="4">Open or short</td></tr><tr><td>Red — Blue</td></tr><tr><td>Red — Orange</td></tr><tr><td>Red — White</td></tr></table></td></tr>
<tr><td>Drain pump (DP)
 
</td><td>Measure the resistance between the terminals using a tester.
(Surrounding temperature 20℃~30℃)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>290Ω</td><td>Open or short</td></tr></table></td></tr>
<tr><td>Drain sensor (DS)
 
</td><td>Measure the resistance between the terminals using a tester.
Measure the resistance after 3 minutes have passed since the power supply was intercepted.
(Surrounding temperature 0℃~60℃)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>0.6kΩ~6.0kΩ</td><td>Open or short</td></tr></table>(Refer to the thermistor)</td></tr>
</table>

<Thermistor Characteristic graph>

Thermistor for lower temperature

- Room temperature thermistor (TH1)
- Pipe temperature thermistor/liquid (TH2)
- Condenser/evaporator temperature thermistor (TH5)

< Thermistor for lower temperature >



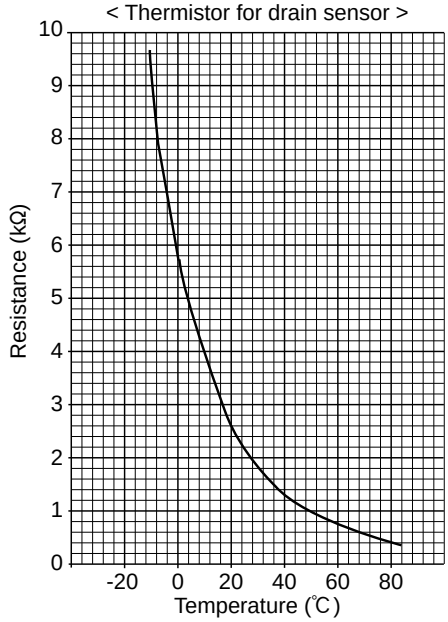
Thermistor R_0=15kΩ ± 3%
Fixed number of B=3480 ± 2%

$$Rt=15\exp\{3480(\frac{1}{273+t}-\frac{1}{273})\}$$

0℃	15kΩ
10℃	9.6kΩ
20℃	6.3kΩ
25℃	5.2kΩ
30℃	4.3kΩ
40℃	3.0kΩ

Thermistor for drain sensor

< Thermistor for drain sensor >



Thermistor R_0=6.0kΩ ±5%
Fixed number of B=3390 ± 2%

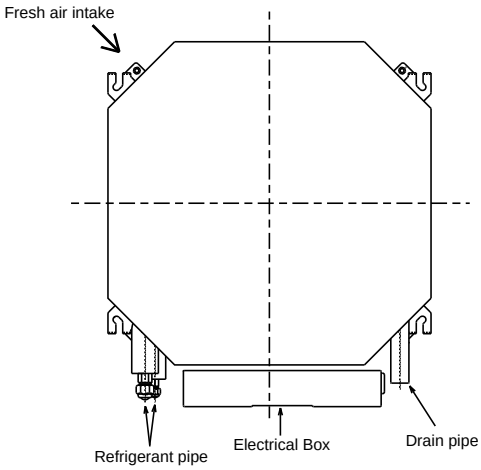
$$Rt=6\exp\{3390(\frac{1}{273+t}-\frac{1}{273})\}$$

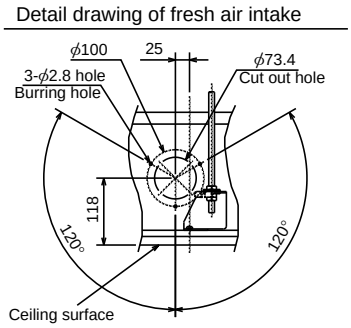
0℃	6.0kΩ
10℃	3.9kΩ
20℃	2.6kΩ
25℃	2.2kΩ
30℃	1.8kΩ
40℃	1.3kΩ
60℃	0.6kΩ

7 4-WAY AIR FLOW SYSTEM

7-1. Fresh air intake (Location for installation)

At the time of installation, use the duct holes (cut out) located at the positions shown in following diagram, as and when required.

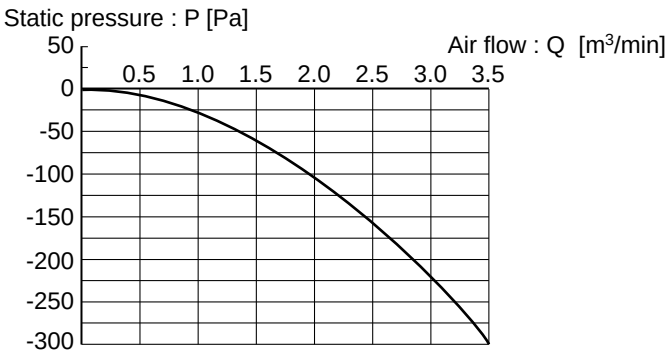




7-2. Fresh air intake amount & static pressure characteristics

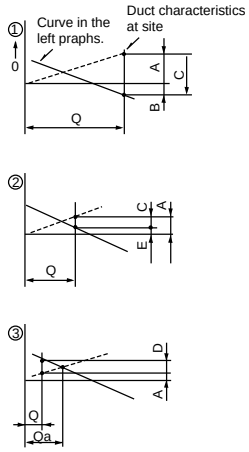
SLZ-KA25VAL.TH SLZ-KA25VA.TH
SLZ-KA35VAL.TH SLZ-KA35VA.TH
SLZ-KA50VAL.TH SLZ-KA50VA.TH

Taking air into the unit



NOTE: Fresh air intake amount should be 20% or less of whole air amount to prevent dew dripping.

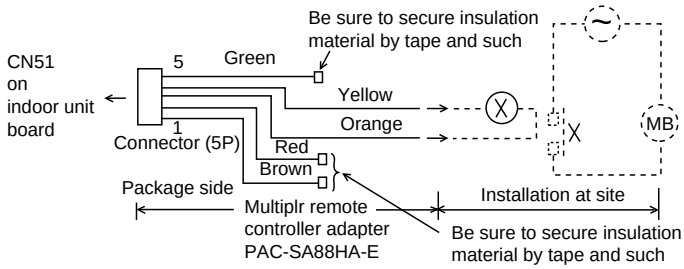
How to read curves

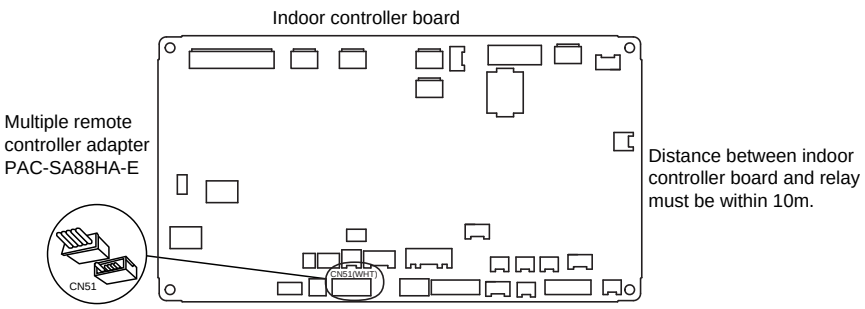


Q···Planned amount of fresh air intake <m³/min>
A···Static pressure loss of fresh air intake duct system with air flow amount Q <Pa>
B···Forced static pressure at air conditioner inlet with air flow amount Q <Pa>
C···Static pressure of booster fan with air flow amount Q <Pa>
D···Static pressure loss increase amount of fresh air intake dust system for air flow amount Q <Pa>
E···Static pressure of indoor unit with air flow amount Q <Pa>
Qa···Estimated amount of fresh air intake with out D <m³/min>

7-3. Interlocking operation method with duct fan (Booster fan)

●Whenever the indoor unit is operating, the duct fun operates.
(1)Connect the optional multiple remote controller adapter(PAC-SA88HA-E)to the connector CN51 on the indoor controller board.
(2)Drive the relay after connecting the 12V DC relay between the Yellow and Orange connector lines.
Use a relay under 1W.
MB: Electromagnetic switch power relay for duct fan.
X: Auxiliary relay (12V DC LY-1F)



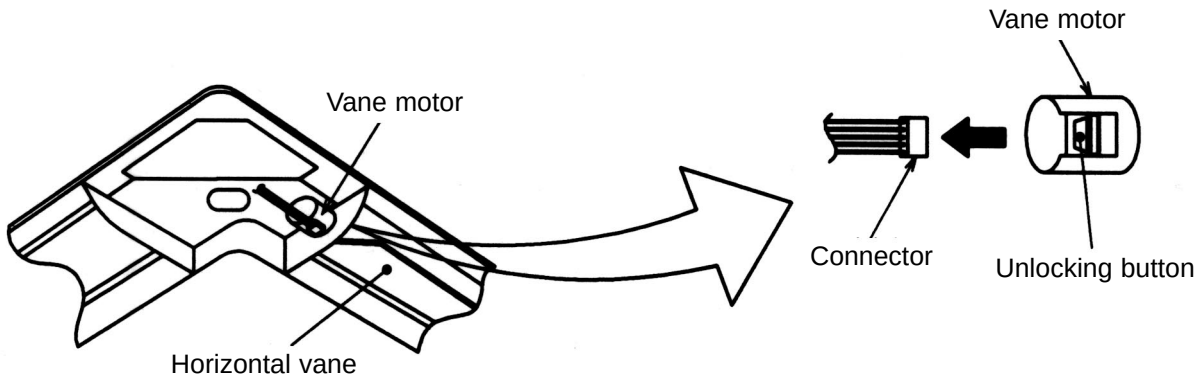

Indoor controller board
Multiple remote controller adapter PAC-SA88HA-E
CN51
CN51(WHT)
Distance between indoor controller board and relay must be within 10m.

7-4. Fixing of horizontal vane

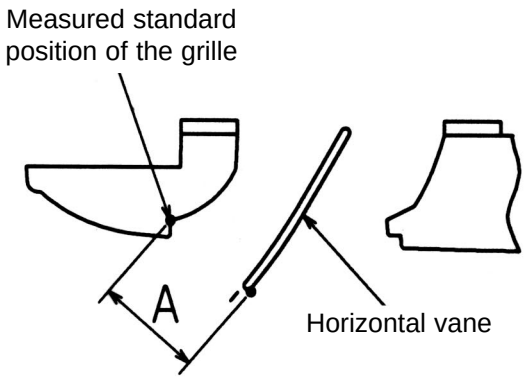
Horizontal vane of each air outlet can be fixed according to the environment, which is installed.

Setting procedure

1) Turn off a main power supply (Turn off a breaker).
2) Disconnect the vane motor connector of the direction of the arrow with pressing the unlocking button as shown in figure below.
   Electricity insulate the disconnected connector with the vinyl tape.



3) Set a vertical vane of the air outlet, which tries to fixed by the hand slowly within the range in the table below.



<Set range>

Standard of horizontal position	Level 30° (Min.)	Downward 45°	Downward 55°	Downward 70° (Max.)
Dimension A (mm)	21	25	28	30

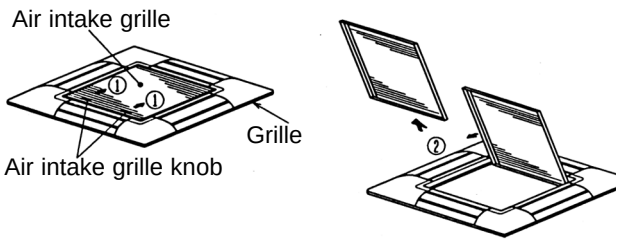
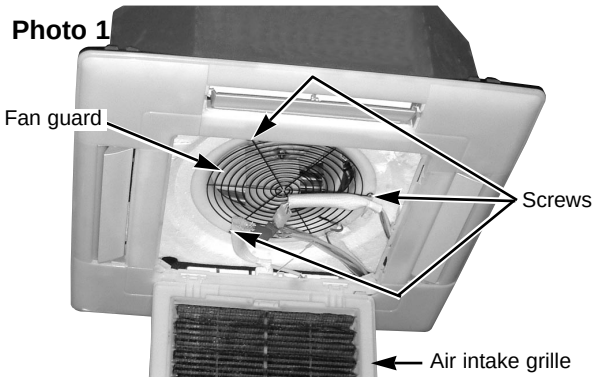
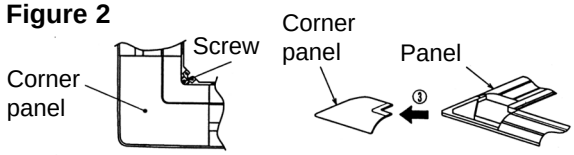
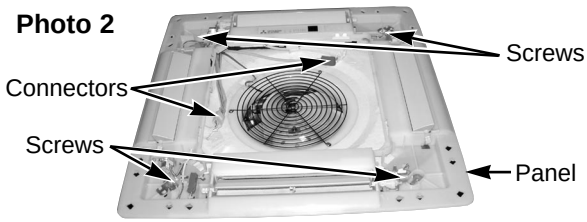
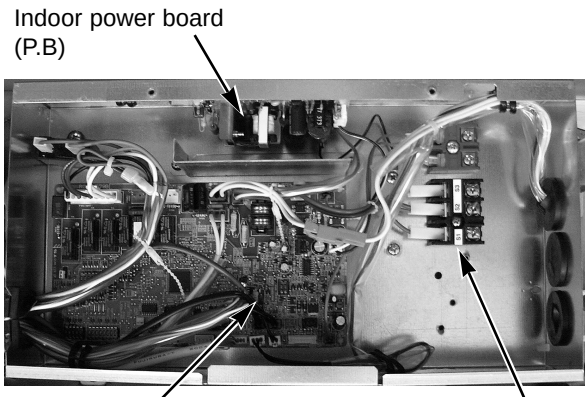
※ Dimension between 21 mm and 30 mm can be arbitrarily set.

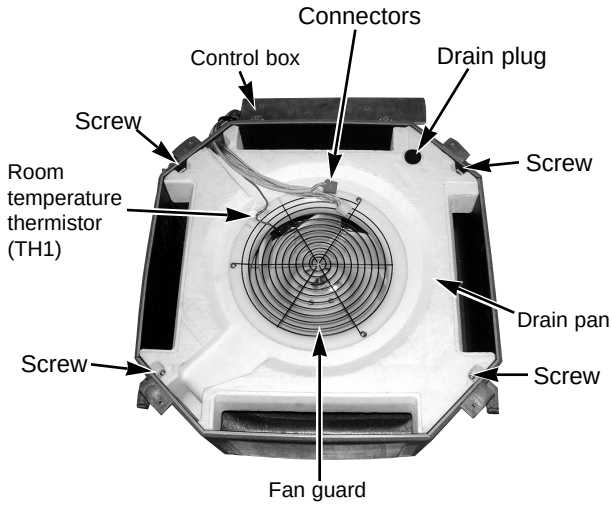
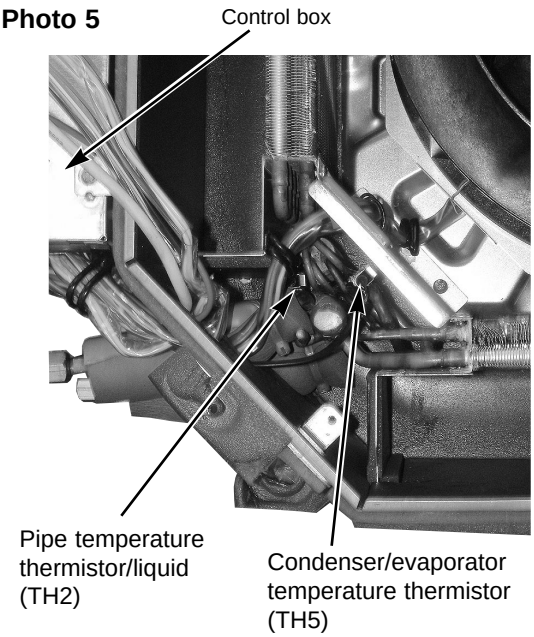
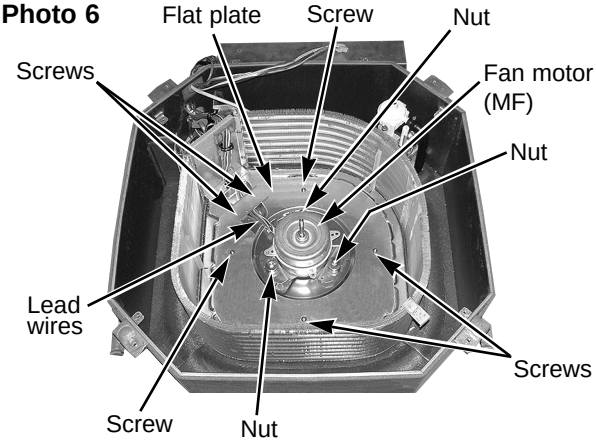
Caution	Do not set the dimension out of the range.
⚠	Erroneous setting could cause dew drips, smudge on ceiling or malfunction of unit.

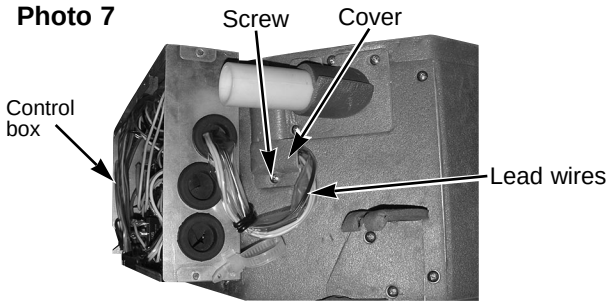
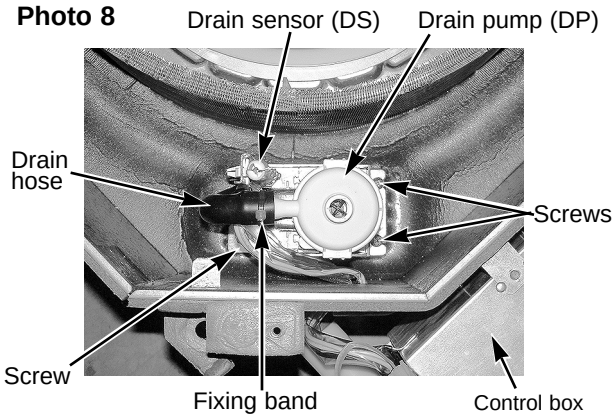
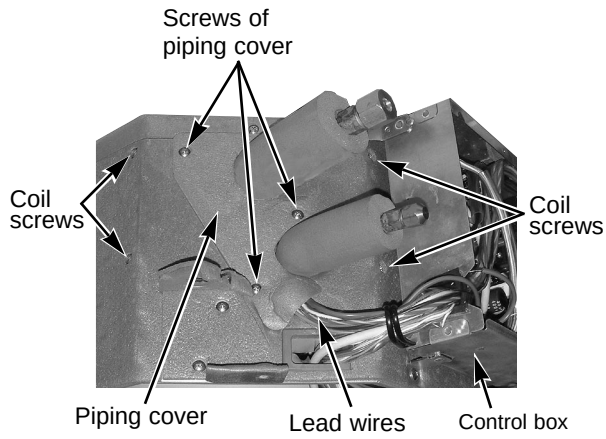
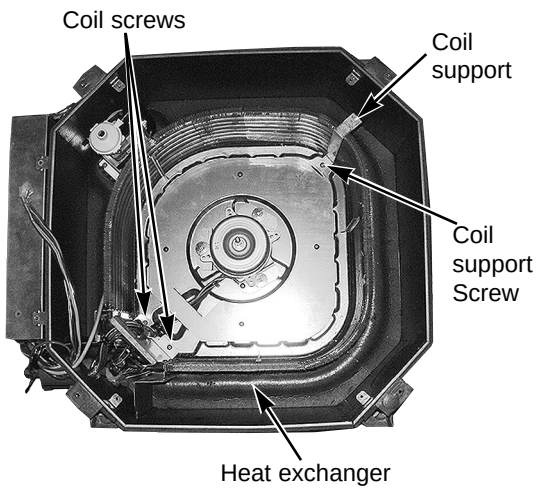
8 DISASSEMBLY PROCEDURE

SLZ-KA25VAL.TH SLZ-KA35VAL.TH SLZ-KA50VAL.TH

Be careful on removing heavy parts.

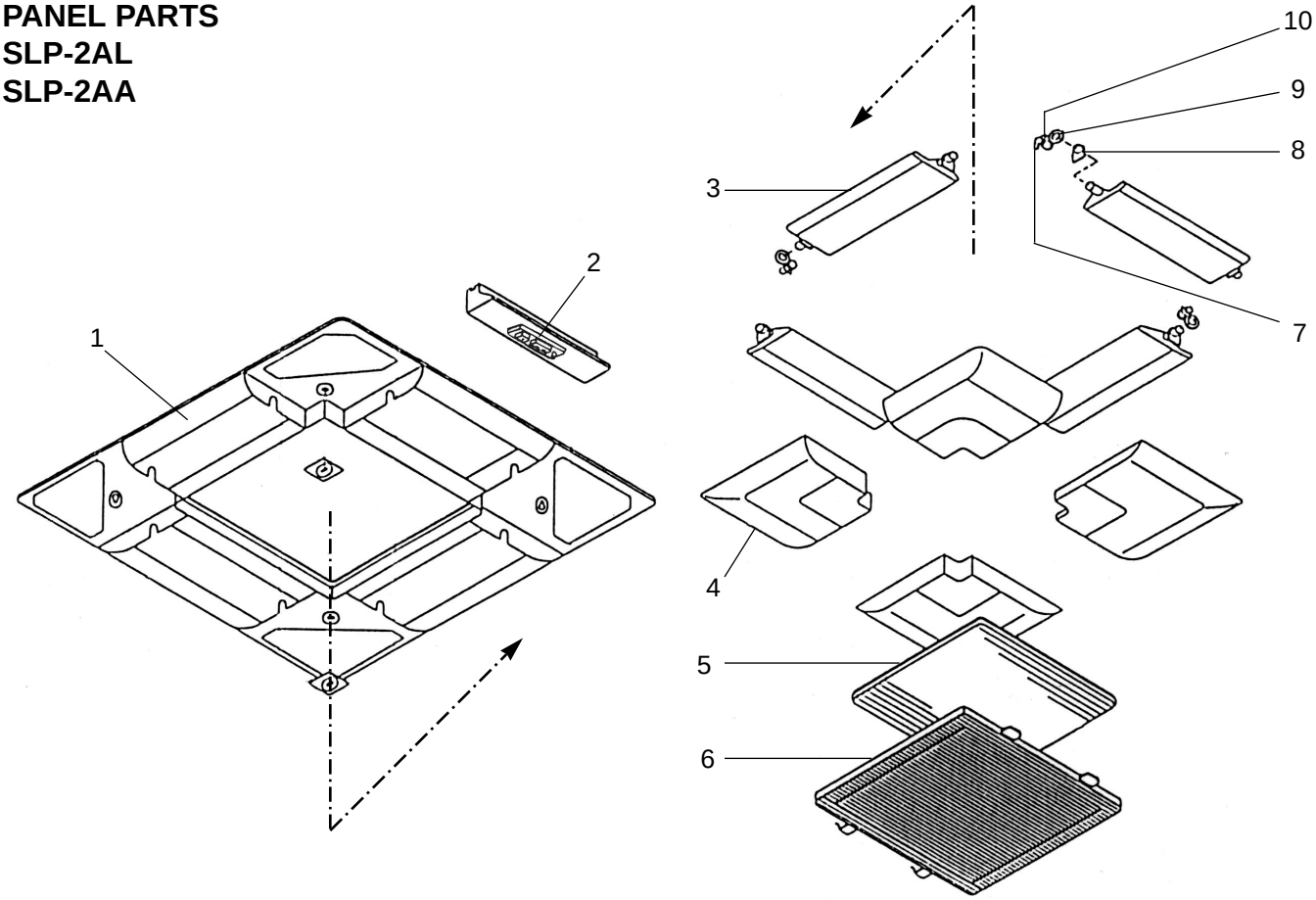
OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
1. Removing the air intake grille (1) Slide the knob of air intake grille to the direction of the arrow ① to open the air intake grille. (2) Remove the hook for secure belt on air inlet grille from the panel. (3) Slide the shaft in the hinge to the direction of the arrow ② and remove the air intake grille.	**Figure 1** 
2. Removing the fan guard (1) Open the air intake grille. (2) Remove the 3 screws of fan guard.	**Photo 1** 
3. Removing the panel (1) Remove the air intake grille. (Refer to **1**) **Corner panel (See figure 2)** (1) Remove the screw of the corner. (2) Slide the corner panel to the direction of the arrow ③, and remove the corner panel. **Panel (See photo 2)** (1) Disconnect the connector that connects with the unit. (2) Remove the 2 screws from the panel and loose another 2 screws, which fixed to the oval hole, have different diameter. (3) Rotate the panel a little to remove the screws.(Slide the panel so that the screw comes to a large diameter of the oval hole, which has two different diameters.)	**Figure 2**  **Photo 2** 
4. Removing the electrical parts (1) Remove the 2 screws and the control box cover. <Electrical parts in the control box> • Indoor controller board (I.B) • Terminal block (TB4) • Indoor power board (P.B)	**Photo 3** 

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
5. Remove the room temperature thermistor (TH1) (1) Remove the panel. (Refer to **3**) (2) Pull out the room temperature thermistor from the drain pan. (3) Remove the 2 screws fixed to the control box cover, and remove the control box cover. (4) Remove the connector (CN20) from the indoor controller board, and disconnect the room temperature thermistor.	**Photo 4** 
6. Remove the drain pan (1) Remove the panel. (Refer to **3**) (2) Remove the room temperature thermistor and the 2 lead wires held with fastener; wireless controller board relay connector (9P red) and panel relay connector (10P white). (3) Remove the 4 screws fixed to the drain pan, and remove the drain pan. (4) Remove the fan guard. (Refer to **2**)	
7. Removing the pipe temperature thermistor/liquid (TH2) and condenser/evaporator temperature thermistor (TH5) (1) Remove the panel. (Refer to **3**) (2) Remove the drain pan. (Refer to **6**) (3) Disconnect the indoor coil thermistor from the holder. (4) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See photo 9) (5) Remove the 2 screws fixed to the control box cover, and remove the control box cover. **Pipe temperature thermistor/liquid (TH2)** (6) Remove the connector (CN21) from the indoor controller board, and disconnect the pipe temperature thermistor/liquid. **Condenser/evaporator temperature thermistor (TH5)** (6) Remove the connector (CN29) from the indoor controller board, and disconnect the condenser/evaporator temperature thermistor.	**Photo 5** 
8. Remove the fan motor (MF) (1) Remove the panel. (Refer to **3**) (2) Remove the drain pan. (Refer to **6**) (3) Remove the nut and the washer from the turbo fan, and remove the turbo fan. (4) Remove the 2 screws fixed to the control box cover, and remove the control box cover. (5) Disconnect the connectors of the (fan 1) and the (fan 2) from the indoor controller board. (6) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See photo 9) (7) Remove the 6 screws fixed to the flat plate, and remove the flat plate. (8) Disconnect the lead wires to the direction of the fan motor, and remove the 3 nuts of the fan motor.	**Photo 6** 

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
9. Removing the drain pump (DP) and drain sensor (DS) (1) Remove the panel. (Refer to **3**) (2) Remove the drain pan. (Refer to **6**) (3) Remove the 2 screws fixed to the control box cover, and remove the control box cover. (4) Remove the connectors of the (CNP) and the (CN31) from the indoor controller board. (5) Remove the 1 screw fixed to the cover, and remove the cover. (6) Disconnect the lead wires to the direction of the drain pump.(See photo 7) (7) Remove the 3 screws of the drain pump. (8) Cut the drain hose band, pull out the drain hose from the drain pump. (9) Pull out the drain pump. (10) Remove the drain sensor and the holder.	**Photo 7**  **Photo 8** 
10. Removing the heat exchanger (1) Remove the panel. (Refer to **3**) (2) Remove the drain pan. (Refer to **6**) (3) Remove the nut and the washer from the turbo fan, and remove the turbo fan. (4) Remove the 2 screws fixed to the control box cover, and remove the control box cover. (5) Disconnect the connector of the (fan) from the indoor controller board. (6) Remove the 3 screws fixed to the piping cover, and remove the piping cover. (See photo 9) (7) Remove the pipe temperature thermistor/liquid and condenser/evaporator temperature thermistor. (Refer to **7**) (8) Disconnect the lead wires to the direction of the fan motor. (9) Remove the 1 coil support screw, the 2 inside coil screws (See photo 10), and the 4 outside coil screws (See photo 9) from the heat exchanger, and remove the heat exchanger.	**Photo 9**  **Photo 10** 

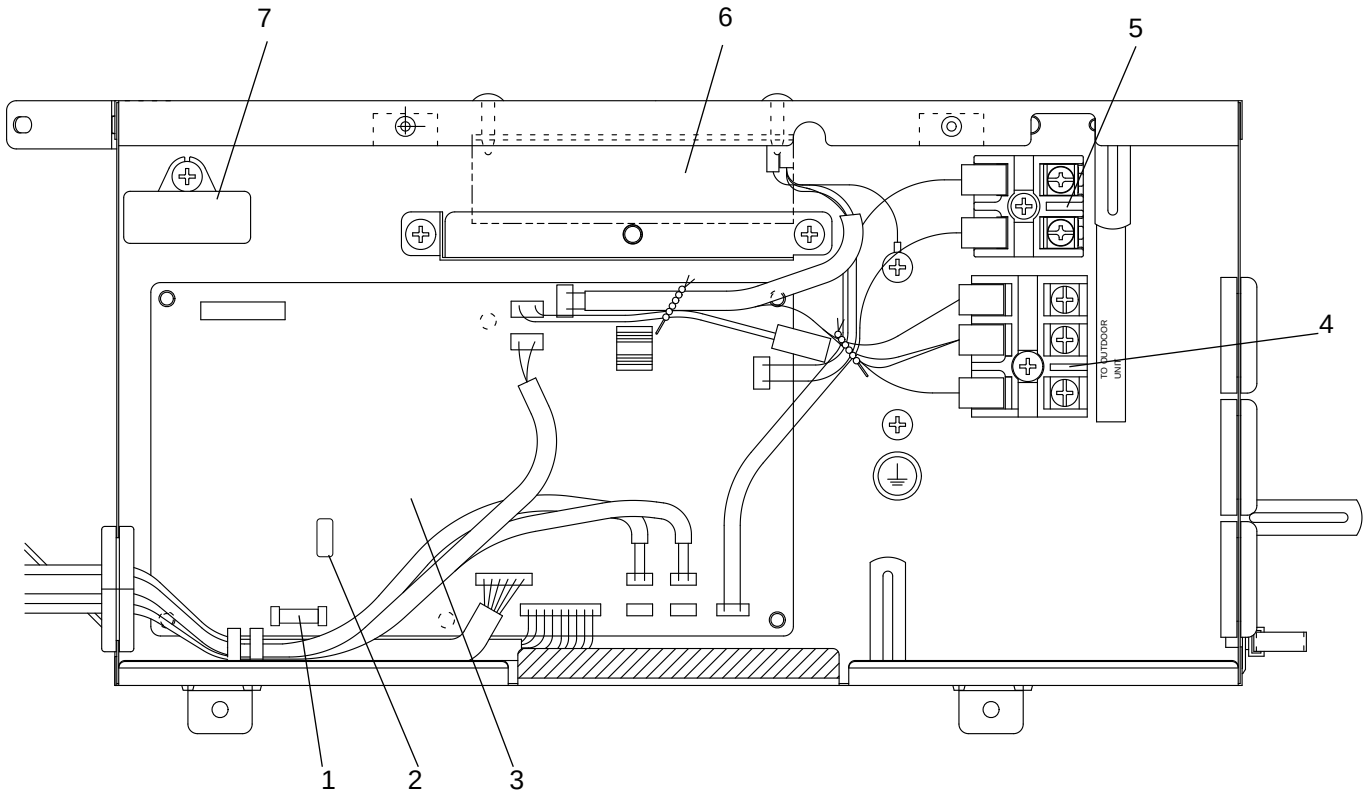
9 PARTS LIST

PANEL PARTS
SLP-2AL
SLP-2AA



No.	Parts No.	Parts name	Specification	Q'ty/set		Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				SLP-2AL	SLP-2AA				Unit	Amount
1	E07 103 003	AIR OUTLET GRILLE		1						
	E07 158 003	AIR OUTLET GRILLE			1					
2	E07 103 317	WIRELSS REMOTE CONTROL BOARD		1			W.B			
3	E07 103 037	AUTO VANE		4	4					
4	E07 103 975	CORNER PANEL		4	4					
5	E07 103 100	AIR FILTER		1	1					
6	E07 103 010	INTAKE GRILLE		1	1					
7	E07 103 303	VANE MOTOR		4	4		MV			
8	E07 103 044	VANE BUSH		8	8					
9	E07 103 031	GEAR (V)		4	4					
10	E07 103 032	GEAR (M)		4	4					

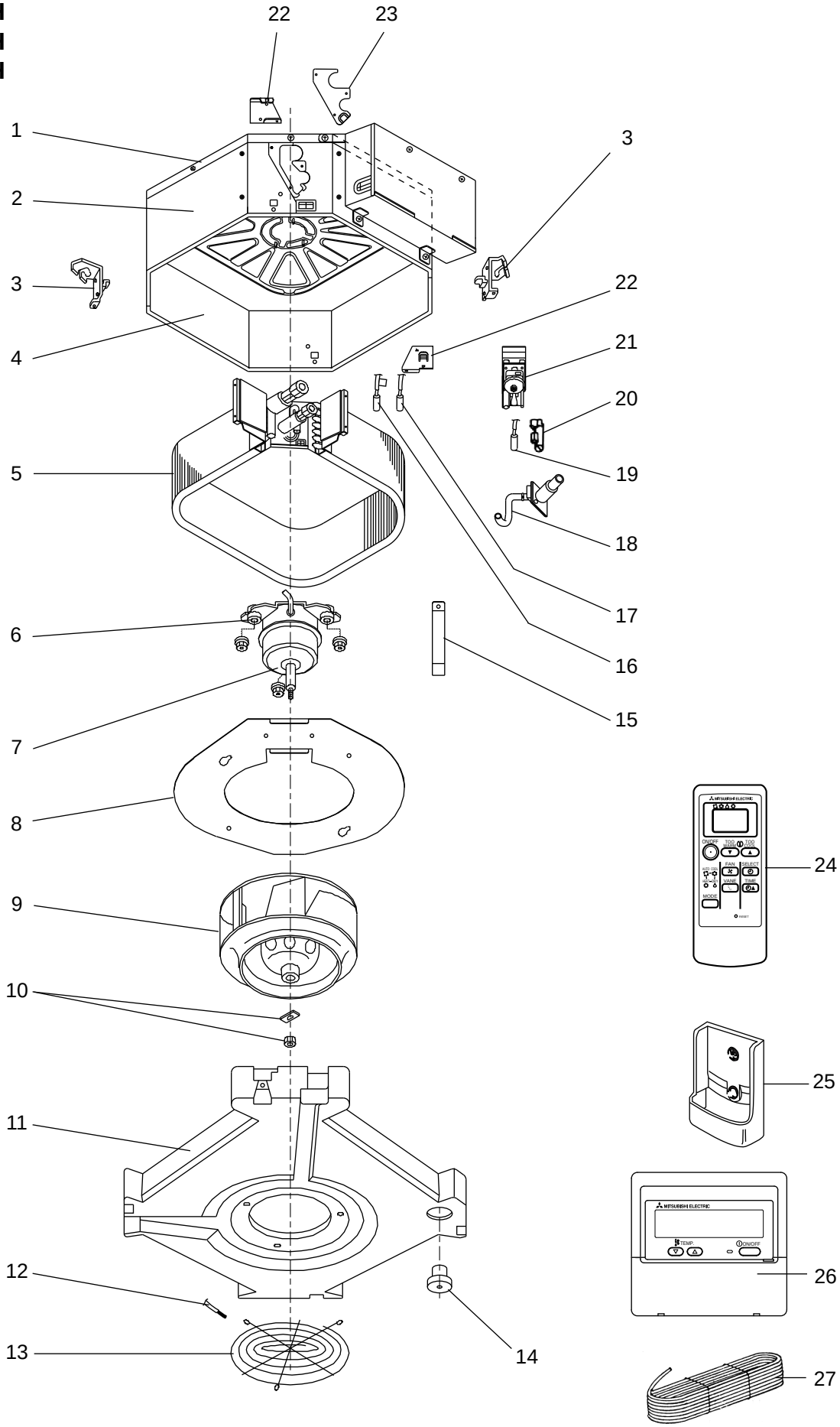
ELECTRICAL PARTS
SLZ-KA25VAL.TH SLZ-KA25VA.TH
SLZ-KA35VAL.TH SLZ-KA35VA.TH
SLZ-KA50VAL.TH SLZ-KA50VA.TH



No.	Parts No.	Parts name	Specification	Q'ty/set SLZ-KA 25 VAL.TH	35 VAL.TH	50 VAL.TH	25 VA.TH	35 VA.TH	50 VA.TH	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
1	E07 006 382	FUSE	250V 6.3A	1	1	1	1	1	1		FUSE			
2	E02 661 385	VARISTOR		1	1	1	1	1	1		ZNR			
3	E07 162 447	INDOOR CONTROLLER BOARD		1			1				I.B			
	E07 164 447	INDOOR CONTROLLER BOARD			1			1			I.B			
	E07 166 447	INDOOR CONTROLLER BOARD				1			1		I.B			
4	E07 162 375	TERMINAL BLOCK		1	1	1	1	1	1	3P	TB4			
5	E07 156 375	TERMINAL BLOCK					1	1	1	2P	TB15			
6	E07 154 440	INDOOR POWER BOARD		1	1	1	1	1	1		P.B			
7	E02 095 350	INDOOR FAN CAPACITOR	1.5μF/ 440VAC	1	1	1	1	1	1		C1			

FUNCTIONAL PARTS

SLZ-KA25VAL.TH
SLZ-KA35VAL.TH
SLZ-KA50VAL.TH
SLZ-KA25VA.TH
SLZ-KA35VA.TH
SLZ-KA50VA.TH



No.	Parts No.	Parts name	Specification	Q'ty/set SLZ- 25	35	50	25	35	50	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
				VAL.TH			VA.TH							
1	E07 104 290	BASE		1	1	1	1	1	1					
2	E07 104 124	DRUM-1		1	1	1	1	1	1					
3	E07 104 808	LEG-1		2	2	2	2	2	2					
4	E07 105 124	DRUM-2		1	1	1	1	1	1					
5	E07 140 620	INDOOR HEAT EXCHANGER		1			1							
	E07 141 620	INDOOR HEAT EXCHANGER			1			1						
	E07 142 620	INDOOR HEAT EXCHANGER				1			1					
6	E07 104 105	MOTOR MOUNT		3	3	3	3	3	3	3PCS/SET				
7	E07 162 300	INDOOR FAN MOTOR	PK6V15-LD	1			1				MF			
	E07 164 300	INDOOR FAN MOTOR	PK6V20-LL		1			1			MF			
	E07 166 300	INDOOR FAN MOTOR	PK6V20-LM			1			1		MF			
8	E07 104 816	FLAT PLATE		1	1	1	1	1	1					
9	E07 104 502	TURBO FAN		1	1	1	1	1	1					
10	E07 104 097	SPL WASHER		1	1	1	1	1	1					
11	E07 104 700	DRAIN PAN		1	1	1	1	1	1					
12	E07 154 308	ROOM TEMPERATURE THERMISTOR		1	1	1	1	1	1		TH1			
13	E07 104 520	FAN GUARD		1	1	1	1	1	1					
14	E07 104 524	DRAIN PLUG		1	1	1	1	1	1					
15	E07 104 648	COIL SUPPORT		1	1	1	1	1	1					
16	E07 154 309	CONDENSER / EVAPORATOR TEMPERATURE THERMISTOR		1	1	1	1	1	1		TH5			
17	E07 154 307	PIPE TEMPERATURE THERMISTOR / LIQUID		1	1	1	1	1	1		TH2			
18	E07 104 702	DRAIN HOSE		1	1	1	1	1	1					
19	E07 104 266	DRAIN SENSOR		1	1	1	1	1	1		DS			
20	E07 104 241	SENSOR HOLDER		1	1	1	1	1	1					
21	E07 104 355	DRAIN PUMP		1	1	1	1	1	1		DP			
22	E07 104 809	LEG-2		2	2	2	2	2	2					
23	E07 154 006	COVER (DRUM)		1	1	1	1	1	1					
24	E07 140 426	WIRELESS REMOTE CONTROLLER		1	1	1					W.R			
25	E02 527 083	REMOTE CONTROLLER HOLDER		1	1	1								
26	E07 159 426	REMOTE CONTROLLER					1	1	1					
27	E07 018 089	REMOTE CONTROLLER CABLE					1	1	1					

Mitsubishi ilmalämpöpumput korjaa ja huoltaa: Jäähdytinpalvelu RefGroup Oy (pääkaupunkiseutu)

Mr.SLIM

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